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WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:  
an image forming unit which forms an image on one surface  
of a printing medium;  
a platen;  
a feeding device which transports the printing medium  
in a feed direction along the platen while the other surface  
of the printing medium faces a surface of the platen; and  
a suction device which sucks air, wherein:  
the platen includes:

first protrusions which protrude from the surface  
of the platen and extend in parallel with the feed  
direction and are arranged at predetermined intervals  
in a direction perpendicular to the feed direction;

recesses which are defined between adjacent ones  
of the first protrusions and extend in the feed direction;

second protrusions which protrude from the surface  
of the platen and are provided on downstream and upstream  
sides, respectively, in the feed direction with respect  
to an image forming region where the image forming unit  
forms an image, and extend in the direction perpendicular  
to the feed direction; and

suction ports which are defined on both the  
downstream and upstream sides, respectively, in the feed

direction with respect to the image forming region in each of recesses surrounded by the adjacent ones of the first protrusions and the second protrusions on the upstream side and the downstream side, and communicate with the suction device.

2. The image forming apparatus according to claim 1, wherein each of second projections is connected to or adjacent to at least two of the first projections.

3. The image forming apparatus according to claim 1, wherein:

a height of each second protrusion provided on the upstream side in the feed direction is substantially equal to those of the first protrusions; and

a height of each second protrusion provided on the downstream side in the feed direction is lower than those of the first protrusions.

4. The image forming apparatus according to claim 1, wherein at least one of the recesses includes a slope which is formed between at least one of the first and second protrusions and the suction ports.

5. The image forming apparatus according to claim 1,

wherein a height of each second protrusion, which corresponds to a position of each side edge of the printing medium in the direction perpendicular to the feed direction and is provided on the downstream side in the feed direction, is lower than those of the first protrusions or substantially equal to those of the recesses.

6. The image forming apparatus according to claim 1, wherein the first protrusions are arranged at such intervals that the interval on an end side of the platen is wider than that on a central portion of the platen in the direction perpendicular to the feed direction.

7. The image forming apparatus according to claim 1, wherein the image forming unit ejects ink toward the platen.

8. The image forming apparatus according to claim 7, wherein:

the image forming unit includes a nozzle surface facing the platen for ejecting ink; and

the suction ports on at least one of the upstream side and the downstream side in the feed direction are provided in a region of the platen, which is outside a region where the platen faces the nozzle surface.

9. The image forming apparatus according to claim 8, wherein:

the image forming unit includes a recording head having the nozzle surface facing the platen; and

the suction ports are provided in a region of the platen, which is outside a region where the platen faces the recording head.

10. The image forming apparatus according to claim 9, wherein:

the image forming unit includes a carriage which moves forward and backward the recording head in a predetermined direction; and

the suction ports are provided outside a region where the carriage has substantially the same height as the nozzle surface of the recording head.

11. The image forming apparatus according to claim 10, wherein the suction ports are provided in a region, which is outside a region where the recording head is moved by the carriage.

12. The image forming apparatus according to claim 1, wherein the platen includes an air chamber which communicates with the suction ports provided on at least one of the upstream

and downstream sides of the platen.

13. The image forming apparatus according to claim 12, wherein a total area of the suction ports provided on the upstream side of the platen is equal to that of the suction ports provided on the downstream side of the platen.

14. An image forming apparatus comprising . . .  
an image forming unit which forms an image on one surface of a printing medium;

a platen;

a feeding device which transports the printing medium in a feed direction along the platen while the other surface of the printing medium faces a surface of the platen; and

a suction device which sucks air, wherein:

the platen includes:

first protrusions which protrude from the surface of the platen and extend in parallel with the feed direction and are arranged at predetermined intervals in a direction perpendicular to the feed direction;

recesses which are defined between adjacent ones of the first protrusions and extend in the feed direction;

second protrusions which protrude from the surface of the platen and are provided on downstream and upstream sides, respectively, in the feed direction with respect

to an image forming region where the image forming unit forms an image, and extend in the direction perpendicular to the feed direction; and

suction ports which are defined in a predetermined region in the vicinity of the second projections and inside the second protrusions, and communicate with the suction device; and

at least part of the second projections on the upstream side and the second projections on the downstream side are disposed in two rows in a staggered configuration.

15. . . The image forming apparatus according to claim 14, wherein each of second projections is connected to or adjacent to at least two of the first projections.

16. The image forming apparatus according to claim 14, wherein at least one of the recesses includes a slope which is formed between at least one of the first and second protrusions and the suction ports.

17. The image forming apparatus according to claim 14, wherein a height of each second protrusion, which corresponds to a position of each side edge of the printing medium in the direction perpendicular to the feed direction and is provided on the downstream side in the feed direction, is lower than

those of the first protrusions or substantially equal to those of the recesses.

18. The image forming apparatus according to claim 14, wherein the first protrusions are arranged at such intervals that the interval on an end side of the platen is wider than that on a central portion of the platen in the direction perpendicular to the feed direction.

19. The image forming apparatus according to claim 14, wherein the image forming unit ejects ink toward the platen.

20. The image forming apparatus according to claim 19, wherein:

the image forming unit includes a nozzle surface facing the platen for ejecting ink; and

the suction ports on at least one of the upstream side and the down stream side in the feed direction are provided in a region of the platen, which is outside a region where the platen faces the nozzle surface.

21. The image forming apparatus according to claim 20, wherein:

the image forming unit includes a recording head having the nozzle surface facing the platen; and



the suction ports are provided in a region of the platen, which is outside a region where the platen faces the recording head.

22. The image forming apparatus according to claim 21, wherein:

the image forming unit includes a carriage which moves forward and backward the recording head in a predetermined direction; and

the suction ports are provided outside a region where the carriage has substantially the same height as the nozzle surface of the recording head.

23. The image forming apparatus according to claim 22, wherein the suction ports are provided in a region, which is outside a region where the recording head is moved by the carriage.

24. The image forming apparatus according to claim 14, wherein the platen includes an air chamber which communicates with the suction ports provided on at least one of the upstream and downstream sides of the platen.

25. The image forming apparatus according to claim 24, wherein a total area of the suction ports provided on the upstream

side of the platen is equal to that of the suction ports provided on the downstream side of the platen.

26. An image forming apparatus comprising  
an image forming unit which forms an image on one surface  
of a printing medium;

a platen;

a feeding device which transports the printing medium...  
in a feed direction along the platen while the other surface  
of the printing medium faces a surface of the platen; and

a suction device which sucks air, wherein:

the platen includes:

first protrusions which protrude from the surface  
of the platen and extend in parallel with the feed  
direction and are arranged at predetermined intervals  
in a direction perpendicular to the feed direction;

recesses which are defined between adjacent ones  
of the first protrusions and extend in the feed direction;

second protrusions which protrude from the surface  
of the platen and are provided on at least one of upstream  
side and down side in the feed direction with respect  
to an image forming region where the image forming unit  
forms an image, and extend in the direction perpendicular  
to the feed direction; and

suction ports which are defined in a predetermined

region of at least one of the recesses in the vicinity of the second projections and in another region of at least one of the recesses distant from the predetermined region in the feed direction, are defined inside the second protrusions, and communicate with the suction device.

27. The image forming apparatus according to claim 26, wherein each of second projections is connected to or adjacent to at least two of the first projections.

28. The image forming apparatus according to claim 26, wherein at least one of the recesses includes a slope which is formed between at least one of the first and second protrusions and the suction ports.

29. The image forming apparatus according to claim 26, wherein a height of each second protrusion, which corresponds to a position of each side edge of the printing medium in the direction perpendicular to the feed direction and is provided on the downstream side in the feed direction, is lower than those of the first protrusions or substantially equal to those of the recesses.

30. The image forming apparatus according to claim 26,

wherein the first protrusions are arranged at such intervals that the interval on an end side of the platen is wider than that on a central portion of the platen in the direction perpendicular to the feed direction.

31. The image forming apparatus according to claim 26, wherein the image forming unit ejects ink toward the platen.

32. The image forming apparatus according to claim 31, wherein:

the image forming unit includes a nozzle surface facing the platen for ejecting ink; and

the suction ports on at least one of the upstream side and the down stream side in the feed direction are provided in a region of the platen, which is outside a region where the platen faces the nozzle surface.

33. The image forming apparatus according to claim 32, wherein:

the image forming unit includes a recording head having the nozzle surface facing the platen; and

the suction ports are provided in a region of the platen, which is outside a region where the platen faces the recording head.

34. The image forming apparatus according to claim 33, wherein:

the image forming unit includes a carriage which moves forward and backward the recording head in a predetermined direction; and

the suction ports are provided outside a region where the carriage has substantially the same height as the nozzle surface of the recording head.

35. The image forming apparatus according to claim 34, wherein the suction ports are provided in a region, which is outside a region where the recording head is moved by the carriage.

36. The image forming apparatus according to claim 26, wherein the platen includes an air chamber which communicates with the suction ports provided on at least one of the upstream and downstream sides of the platen.

37. The image forming apparatus according to claim 36, wherein a total area of the suction ports provided on the upstream side of the platen is equal to that of the suction ports provided on the downstream side of the platen.

38. An image forming apparatus comprising:

an image forming unit which forms an image on one surface of a printing medium;

a platen;

a feeding device which transports the printing medium in a feed direction along the platen while the other surface of the printing medium faces a surface of the platen; and

a suction device which sucks air, wherein:

the platen includes:

a plurality of paper receiving surfaces which are provided on the surface of the platen and extend in parallel with the feed direction and are provided at predetermined intervals in a direction perpendicular to the feed direction;

recesses which are defined between adjacent ones of the paper receiving surfaces and extend in the feed direction;

entrance portions which are provided on one of upstream side and downstream side of at least a part of the recesses in the feed direction and entrance the printing medium and the recesses; and

suction ports which are defined on the other of the upstream side and the downstream side in the feed direction and communicate with the suction device.

39. A platen comprising:

a plurality of paper receiving surfaces which are provided on a surface of the platen and extend in parallel with a predetermined direction and are provided at predetermined intervals in a direction perpendicular to the predetermined direction;

recesses which are defined between adjacent ones of the paper receiving surfaces and extend in the predetermined direction;

escape portions which are provided on at least one of upstream side and downstream side of at least a part of the recesses in the predetermined direction and escape the printing medium and the recesses; and

suction ports which are defined on at least one of the upstream side and the downstream side in the feed direction and on a surface of at least a part of the recesses.